

of the
MOSSES
of
NEW YORK
STATE

By

EDWIN H. KETCHLEDGE

Temporary Museum Expert
New York State Museum and Science Service

NEW YORK STATE MUSEUM

BULLETIN NUMBER 363

The University of the State of New York
The State Education Department

Albany, N. Y.

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The University of the State of New York
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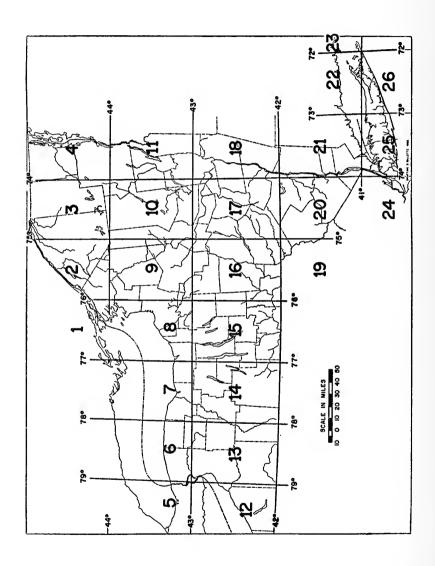
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PREFACE

In accordance with the duty of the New York State Museum and Science Service to study the living organisms of the State and to report their natural history, it is proposed to issue a series of checklists on various biota occurring in New York. These checklists will report the taxonomic composition of each group and will indicate the distribution of the component members within the State. It is hoped that the checklists will encourage interested persons to aid in the biological exploration of poorly known districts. Such participation by all concerned is essential to the preparation of adequate floras and faunas for New York State.

This is the first of such checklists. It represents the first accounting of the mosses of the State since 1866.

WILLIAM N. FENTON
Assistant Commissioner for
State Museum and Science Service



CHECKLIST OF THE MOSSES OF NEW YORK STATE

By
Edwin H. Ketchledge
Temporary Museum Expert
New York State Museum and Science Service*

INTRODUCTION

This checklist of the mosses of New York State is a progress report summarizing present knowledge of the distribution of mosses within New York. It serves as a forerunner to a State Moss Flora and is presented now with the hope of stimulating latent bryological interest among fellow botanists and students of New York vegetation.

The present study began in 1949 as a joint project of the author and the Botany Section of the State Museum. Through the agency of the Graduate Student Honorarium program established by the State Science Service, the author initiated a survey of the moss flora of the Adirondack region. Following two summers of fieldwork and after a systematic review of botanical literature, a preliminary list of mosses was prepared, reporting 320 species, excepting the genus *Sphagnum*, from northern New York. In 1951, the study was expanded to include the entire State. On continued field and herbarium research, likewise sponsored by the Honorarium program, it was revealed that slightly over 400 species of true mosses occur in New York. During the ensuing four years, approximately eight thousand specimens were examined and hundreds of stations added to the catalog of State mosses.

The known moss flora of New York State consists of 3 orders, 45 families, 147 genera, 439 species and 61 varieties. This is a larger number of species than that reported thus far for any other political division in the United States. Within the State, mosses vary greatly in abundance and frequency. Many species exhibit wide ecological amplitude and are relatively common in all sections of the State: thus, Mnium cuspidatum and Ceratodon purpureus occur in all 26 districts. Numerous other species appear in New York solely as outliers of subtropical or arctic ranges. For example, Aulacomnium turgidum, a weedy species of arctic regions, is known in New York only from Mount Marcy and Pogonatum brachyphyllum, a subtropical Coastal

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Plain species, occurs only at Orient, Long Island. The majority of New York mosses, however, are boreal or Temperate Zone species and occur abundantly in the State; their apparent absence from various districts reflects, for the most part, the lack of sufficient fieldwork in those sections of New York, rather than poverty of the moss flora itself.

The distribution-districts used in the checklist are based on "square" degrees of latitude and longitude and are numbered consecutively beginning in the northwest corner of the State (see map, frontispiece). The following symbols indicate the presence of species and varieties in the districts:

X specimens seen and examined

L authentic literature reports

M personal communications from monographers

V district approximate

? specimen reported, but locality questioned

One taxon,* typical Fontinalis antipyretica, is reported for New York by Welch (personal communication), but the exact locations of the stations are unknown.

To date, the investigation reveals 4,035 district records for New York mosses, distributed among the districts as follows:

District:	1	7	12	19			From 1 to 50 species and varieties
District:	2	5	8	23			From 51 to 100 species and varieties
District:	6	14	16	21	22	26	From 101 to 150 species and varieties
District:	3	9	24				From 151 to 200 species and varieties
District:	10	13	20	25			From 201 to 250 species and varieties
District:	4	11	15	17	18		From 251 to 300 species and varieties

In the checklist, families are, in general, arranged according to Brotherus in Die natürlichen Pflanzenfamilien, Ed. 2, 1924-25; within families, the genera, species and varieties appear alphabetically. Taxonomy of the Sphagnales follows Andrews in North American Flora, v. 15, pt. 1, 1913. For the most part, taxonomy of the Andreaeales and Bryales agrees with Moss Flora of North America, North of Mexico, Grout et al., 1928-40. Binomials differing from those of the floras are designated by an asterisk and may be found listed with the corresponding flora name at the end of the checklist proper.

Wherever consistent with sound taxonomic practice, properly described varieties have been maintained throughout the checklist, with minor exceptions. Taxonomic validity of these entities will be more

^{*}A taxon is a taxonomic category of any rank.

thoroughly reviewed in a forthcoming flora, now in preparation. For the time being, however, three new combinations must be proposed, albeit reluctantly, in order to incorporate three varieties in the checklist. The combinations are as follows:

Eurhynchium pulchellum var. scabrisetum (Grout) comb. nov. Eurhynchium strigosum var. scabrisetum Grout, Bull. Torr. Bot. Club 25: 241. 1898.

Hypnum lindbergii var. demissum (Schimp.) comb. nov. Hypnum arcuatum var. demissum Schimp., Syn. (Ed. 2) 758. 1876.

Hypnum lindbergii var. elatum (Schimp.) comb. nov. Hypnum arcuatum var. elatum Schimp., loc. cit.

Throughout the course of the investigation, the author received gratifying assistance and advice from a number of colleagues and fellow bryologists. Dr. William C. Steere, professor of botany and dean of the Graduate Division, Stanford University, aided the author in many determinations and was a constant source of personal and professional guidance. Dr. Howard A. Crum, curator of the Cryptogamic Herbarium, National Museum of Canada, Ottawa, likewise served both as friend and professional counselor. Dr. A. LeRoy Andrews, dean of American bryologists and authority on Sphagnum, has kindly consented to the inclusion of his determinations of New York State specimens in the checklist; no other records are cited for this genus.

Mr. Roy Latham, Orient, New York, made his personal collection available at this time, greatly augmenting knowledge of the moss flora of Long Island. The author also owes a debt of gratitude to Stanley Jay Smith, curator of botany of the New York State Museum and Science Service; without his unfailing support, assistance on field trips and help in the preparation of the checklist, this study would not now be ready.

From time to time, the author has enlisted the aid of various specialists and monographers and wishes now to acknowledge their many kindnesses, including identifications, especially of A. LeRoy Andrews, professor emeritus of German, and honorary curator of the bryological collection in the Wiegand Herbarium of Cornell University, Ithaca (Sphagnaceae, Bryaceae and Mniaceae); Geneva Sayre, chairman of the Department of Biology, Russell Sage College, Troy (Grimmiaceae, Aulacomniaceae and Timmiaceae); Winona H. Welch, professor of botany, DePauw University, Greencastle, Indiana

(Fontinalaceae), and William T. Winne, professor of biology, Union College, Schenectady (aquatic mosses).

The directors and staffs of several herbaria kindly placed materials and facilities at the author's disposal during the study, for which he is deeply grateful; these include the New York Botanical Garden, the Buffalo Museum of Natural Science, Cornell University, State University of New York College of Forestry at Syracuse University, Union College, University of Michigan and Stanford University. Acknowledgments would not be complete without a special note of thanks to the director and staff members of the New York State Museum and Science Service, especially E. C. Ogden, State botanist. They, from the beginning, encouraged the study and rendered both financial and logistic support.

It is hoped that publication of this checklist will stimulate bryologists and other botanists and naturalists to collect mosses, particularly in those districts which have been poorly explored bryologically. Specimens, properly labeled with collection data (habitat, locality and date of collection) may be sent to the State Herbarium, New York State Museum and Science Service, Albany. The staff there will see that they are verified or identified by competent authorities.

			DISTRICTS (See Map)	ap)	
	1 2 3 4 5	8 1 9	11 12 13 14 15	16 17 18 19 20	9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
SPHAGNALES SPHAGNACEAE					
Sphagnum capillaceum (Weiss) Schrank	××	X X X X X X	X X X X	X X X X X	X X X
centrale C. Jens.*	× ×	×	××	×	×
cuspidatum Ehrh		x x x	XX		×
v. serrulatum Schliephv. torreyi (Sull.) Braithw				×	$X \times X \times X \times X$
dusenii C. Jens. fimbriatum Wils.	×	×	X X X X	×	X X X X
fuscum (Schimp.) H. Klinggr	××	X X X X X X X X X X X X X X X X X X X	××	X X X X X X X X X X X X X X X X X X X	
henryense Warnstimbricatum Hornschv. affine (Ren. & Card.) Warnst		*	×	X X X X X	$\begin{smallmatrix} & & & & & & & \\ & & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & \\ & & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & \\ & & & & \\ $
lindbergii Schimp	×				X

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SPHAGNALES SPHAGNACEAE					}						İ			i									
Sphagnum—(Continued) magellanicum Brid palustre L papillosum Lindb plumulosum Röll v. flavicomans (Card.) Andrews		~~~~	×××× ××××		×× ×	×	××	×××	××××	×××	××	××	×	×××	×××	**	×	××××		××	××	×××	×××××
pulchrum (Lindb.) Warnst. pylaesii Brid					× ××	×	×× ×	****	×××××××	** ***	×	* **	××	XXXXX	***** ** **	XX XX	××	*** **	×	×× ×	X X	×× ×	×× ××
tabulare Sull. tenellum Pers. tenerum Sull. & Lesq teres (Schimp.) Ångstr warnstorfanum DuRietz* wulfanum Girg		× ×	××××× ×××		××		××	××	××	×××		×××	××	×××	* * *	××		×		×	×	×	×

				DISTR	DISTRICTS (See Map)	(Tap)			7
	1 2 3 4 5	6 7 8	9 10	11 1	2 13 14 15	16 17 1	8 19 20	21 22	9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
ANDREAEALES ANDREAEACEAE									
Andreaea rothii Web. & Mohr	×	×	×		×	×	×	×	×
rupestris Hedwv. alpestris (Thed.) Sharp	X		X X	×	×	X X	×		×
BRYALES FISSIDENTACEAE									
Fissidens adiantoides Hedw	XXXX	×	××	×	X X X X	LX	X	×;	×
bryoides Hedw	k	ļ	× ;	/ ;	× ;	< ;	4 × ×		;
cristatus Wilsdebilis Schwaegr.*.exiguus Sull.	ν ν ν ν × ×	4 4 %	4 X X	4	< × ××	< ×	4 %	*	4 ×
	X	×	×	۸.	X X	×	×		
hallianus (Sull. & Lesq.) Mitt.	×		X K	ı		×	X	×	×
obtusifolius Wilsosmundioides Hedw	x x		X	×	×	×	×		

		,	DISTRICTS (See Map)	ap)	
	1 2 3 4 5	0 /	11 12 13 14 15	16 17 18 19 20	8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
BRYALES FISSIDENTACEAE					
Fissidens—(Continued) subbasilaris Hedw taxifolius Hedw viridulus (Web. & Mohr) Wahlenb	X	X X X	X X X L X L X X X X X X X X X X X X X X	X X X X	X X X
ARCHIDIACEAE					
Archidium alternifolium (Hedw.) Schimpohioense Schimp					\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
DITRICHACEAE					
Bruchia flexuosa (Sw.) C. Müllsullivantii Aust				×	LX
purpureus (Hedw.) Brid	$X \times X \times X$	$\mathbf{x} \ \mathbf{x} \ \mathbf{x} \ \mathbf{x} \ \mathbf{x}$	$X \times X \times X$	$X \times X \times X$	$X \times X \times X \times X$
capillaceum (Hedw.) B. S. G	×		٠.	٠.	
Ditrichum lineare (Sw.) Lindb	×	X	X	X	X X X X

	1 2 3 4 5	5 6 7 8	01 6	DISTRICTS (See Map)	(See Ma	p) 16 17 18 19	20	DISTRICTS (See Map) 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
DITRICHACEAE								
Ditrichum—(Continued) pallidum (Hedw.) Hampe pusillum (Hedw.) E. G. Britt	*	×	×	××	× × × ×	××	××	X X X X X X X X X X X X X X X X X X X
Pleuridium palustre (Br. & Schimp.) B. S. G subulatum (Hedw.) Lindb		×	×	X X X	X	X X X	×	XXXXXXXX
Saelania glaucescens (Hedw.) Broth	×		×	×	×	*	×	×
I rematodon ambiguus (Hedw.) Hornsch	×		×	X	M	×		X
SELIGERIACEAE								
Blindia acuta (Hedw.) B. S. G.	x x					×		
calcarea (Hedw.) B. S. G	* *	×	× ×	~ ×	× >			

	1 2 3 4 5	6 1 8 9	DI 10 11	DISTRICTS (See Map) 10 11 12 13 14 15 16 17 18 19 20	Ma 15	p) 16 17 18 1		21 22 23	24 25	5 26
DICRANACEAE					: 					1
Arctoa blyttii (B. S. G.) Grout fulvella (Dicks.) B. S. G starkei (Web. & Mohr) Grout Dichodontium pellucidum (Hedw.) Schimp Dicranella cerviculata (Hedw.) Schimp	× × × × × ×		٠. ا		×	>			۸.	×
heteromalla (Hedw.) Schimp. v. orthocarpa (Hedw.) Paris. rufescens (Smith) Schimp. schreberiana (Hedw.) Schimp.* subulata (Hedw.) Schimp. varia (Hedw.) Schimp.	X	X	XXXX X	X I X	× ×× ×	X X X X X X X X X X X X X X X X X X X	X	×	XXX X	××
Dicranodontium denudatum (Brid.) E. G. Britt. Dicranoweisia crispula (Hedw.) Lindb. Dicranum bergeri Bland. bonjeanii De Not.	× × × × ×	×	N N	× ×	×	×××	X X X X	×	×	×

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									H	DISTRICTS (See Map)) SI	See	Maj	<u> </u>									
	1 2	33	4	w	9	7	∞	6	10	10 11 12 13 14 15 16 17 18 19 20	13	14	5	10 1	7 18	3 19	20	21 22 23	22	23 2	24 25	5 26	2
DICRANACEAE					<u> </u>				İ				<u> </u>										1
Dicranum—(Continued) drummondii C. Müll.		P	1						×	×					X		×						l.
fagellare Hedwfulvum Hook	$\times \times$	KKK!			\bowtie				$\times \times$	$\times \times$	\bowtie	×	××	×	××	$\times \times$	××	$\bowtie \bowtie$	$\times \times$	××	×	$\times \times$	K4 K4
v. viride (Sull. & Lesq.) Grout					×					×	K L	,					××						
montanum Hedwmuhlenbeckii B. S. G	×			>				×	××	×	\bowtie	. ,	××	×	\times		×	×		×	×	×	
rugosum Brid	X	X			×			×	×		×	×		X			×		×		X		
scoparium Hedwspurium Hedw			××		×		×			××	$\times \times$		$\times \times$		× × ×	×	××	××		×		X X X	L.
Oncophorus gracilescens (Web. & Mohr) Lindb polycarpus (Hedw.) Brid v. strumiferus (De Not.) Grout wahlenbergii Brid Oreoweisia serrulata (Funck) De Not	×	××	××××			×			×	×	×	×	××	×	× ×		N X H	×	\times		~	×	1
Paraleucobryum Iongifolium (Hedw.) Loeske	×	×	×		×	1		×	×	×	M		×		×		×		×	\times		×	1

			DISTRICTS (See Map)	ар)	
	1 2 3 4 5	6 7 8 9 10	11 12 13 14 15	16 17 18 19 20	9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
DICRANACEAE					
Rhabdoweisia denticulata (Brid.) B. S. G	X X	X X	X X X	X X X	
LEUCOBRYACEAE					
Leucobryum albidum (Brid.) Lindbglaucum (Hedw.) Schimp	x x x x	XXXXX	XXXXX	X X X X	X X X X X X
CALYMPERACEAE					
Syrrhopodon floridanus Sulltexanus Sull					וני
ENCALYPTACEAE					
Encalypta ciliata Hedw	× × × × × × × × × × × × × × × × × × ×	× ×	× × × ×	× × × ×	X
		}			

	1 2 3 4 5	6 7 8	DISTRICTS (See Map) 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	Map 15 11	5 17 1	8 19 20	21 22 2	3 24 25 26
				1				
POTTIACEAE				<u></u>				
Acaulon rubrum (Röhl.) Groutrufescens Jaegr.		×	×					X L
Anoectangrum peckii (Sull. in Peck) Peck					×			
Astomum muhlenbergianum (Sw.) Grout			×	×		X V		××
Barbula convoluta Hedw	×		×	<u>~</u>	×	,		L
fallax Hedwreflexa (Brid.) Brid.	××	××	×	××	×	× ×		
unguiculata Hedw	X	x x x x	×	×	×	×	×	×
bryoerythrophylum recurvirostrum (Hedw.) Chen.*	X X	X X X	×	×	×	X	X	
Desmatodon obtusifolius (Schwaegr.) Jurporteri James in Aust	ХIJ		×				11 1	
rigidulus Hedwtophaceus (Brid.) Jurtrifarius (Hedw.) Brid	×××	×	×	<u>~</u> ×	×	×		

			DISTR	DISTRICTS (See Map)	Map)		
	1 2 3 4 5	6 8 2 9	11 1	2 13 14 1	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	20 21 22	23 24 25 26
POTTIACEAE							
Gymnostomum aeruginosum Smith calcareum Nees & Hornsch	X X X	X X X X	×	X X X	X X X	×	×
Hymenostylium recurvirostrum (Hedw.) Dixon*	XXX	XX	×	X X X	X X	×	X T X
nyopnia tortula (Schwaegr.) Hampe	X		×	*	×	X	
Phascum cuspidatum Hedw		X	×	X X X	X		X L
Pottia truncata (Hedw.) Fürnr		$X \times X \times X$		XXXX	X X	×	x x
fragilis (Hook. & Wils. ex Drumm.) Limpr humilis (Hedw.) Jenn.*	XX	X X X	×	×	××	××	X X X
nitida (Lindb.) Brothtortuosa (Hedw.) Limpr	$X \times X \times X$	X X X	×	Х	X X X	x x	X
Tortula intermedia (Brid.) Berknucronifolia Schwaegr	×	×	×	×	X X X		×

			DISTRICTS (See Map)	(ap)	
	1 2 3 4 5	5 6 7 8 9 10	11 12 13 14 15	16 17 18 19 2	8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
POTTIACEAE					
Tortula—(Continued) papillosa Wils. in Spruce	×××	××	××	×	XX
Irchostomum tenuirostre (Hook & Tayl.) Lindb.*	×	×	×	×	×
Weissia controversa Hedw.*	X X X X	X X X	x x x x	×	X X X X
GRIMMIACEAE					
Grimmia affinis Hornsch.* agassizii (Sull. & Lesq.) Lesq. & James alpestris Nees v. alpicola (Hedw.) Hartm.* v. ambigua (Sull.) Jones v. conferta (Funck) Spreng v. dupretii (Thér.) Sayre*. v. stricta (Turn.) Mitt.* donniana Smith	× × × × × × × × × × × × × × × × × × ×	× × × ×	×× × ×× × × × ×~	** * *	× × × × ×
- 1					

	1 2 3 4 5	2 9	DISTRICTS (See Map) 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	ap) 16 17 18 19 2	21 22	23 24 25 26
GRIMMIACEAE					1	
Grimmia—(Continued) olneyi Sull. pilifera Palis. unicolor Hook.	××	X	X X X	× ×	×	x x
Rhacomitrium aciculare (Hedw.) Brid	***	× ×	×	×	×	×
v. affine (Schleich.) C. Jens	× ×× ×××	×	××	×	××	×
DISCELIACEAE						
Discelium nudum (Dicks.) Brid				×		
EPHEMERACEAE						
Ephemerum cohaerens (Hedw.) Hampecrassinervium (Schwaegr.) C. Müll		×	T X	×		×

	1 2 3 4 8	5 6	7	∞		0	DISTRICTS (See Map)	s (Sec 3 14	15	tp)	7 1	3 19	20	21 22	DISTRICTS (See Map) 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	5 26
EPHEMERACEAE		<u> </u>														
Ephemerum—(Continued) megalosporum (Aust.) Salm serratum (Hedw.) Hampe spinulosum Schimp Nanomitrium austinii (Sull.) Lindb				1				×	×					× × ×	×× ×	××
FUNARIACEAE																
Aphanorrhegma patens (Hedw.) Lindbserratum (Hook. & Wils.) Sull				7				>	××	, ,	××		×	×	×	×
Funaria fiavicans Michx	n	×						~ .						J	×	×
flaviseta Warnst.* hygrometrica Hedw. v. calvescens (Schwaegr.) B. S. G	X X X		×	×	XXXXX		×	X X X X X	×	×	×	u	×	×	×	×
Physcomitrium hookeri Hampeimmersum Sull	×		×	×	x x x x x		×	××	×××		~ ~	X X X	×	×	×	×

			DISTRICTS (See Map)	ap)	
	1 2 3 4 5	6 7 8 9 10	11 12 13 14 15	16 17 18 19 20	9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
SPLACHNACEAE					
Splachnum ampullaceum Hedwrubrum Hedw	**		×		
angustatus (Hedw.) B. S. Gmnioides (Hedw.) B. S. G	××		X	××	
SCHISTOSTEGACEAE					
Schistostega pennata (Hedw.) Hook. & Tayl	XX	X		X	
TETRAPHIDACEAE					
Tetraphis pellucida Hedw	X X X X X	X X X X X	X X X	X X X X	XXXXX
brownianum (Dicks.) Schwaegr.*	X				
BRYACEAE					
Bryum alpinum Withangustirete Kindb.*	IJ	×	X X X X	××	

										ш	DISTRICTS (See Map)	ICTS	\hat{S}	e M	ap)									
	-	7	3	4	10	9	7	∞	9 1	0	10 11 12 13	2 13	14	15	16	17	18	14 15 16 17 18 19 20	20	21 22	2 2	23 24	t 25	26
BRYACEAE									İ															
argenteum Hedw caespiticium Hedw capillare Hedw cuspidatum (B. S. G.) Schimp gemmiparum De Not muhlenbeckii B. S. G.	×××	×	* *	××××	××	****	*	××	××	××××	****	****		×××××	×	XXXXXX	×××	***	X X X	XXX	׬	××	××××	
pallens (Web. & Mohr.) Röhl	×	×	×	××× ×	× ×	* *		×	×	> × ×××	LX XX	× ××	××	× × ×	×	××	** *	×	×	. * *		×	N L X	
Leptobryum pyriforme (Hedw.) SchimpPohlia			×	×		×		×	×	×	×	×		×		×	×		×		L ,	×		
acuminata Hoppe & Hornschannotina (Hedw.) Loeskecruda (Hedw.) Lindbdelicatula (Hedw.) Grout*drummondii (C. Müll.) Andrews.			×	> ×				.,	×	×	××	コト		\times \times		\times	×		×××			$\times \times$	JX	×

	1 2 3	4	ν.	٠		0	10	DISTRICTS (See Map) 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	ucts	(Se	e Ma	⁴ (or 10)	7 18	3 19	20	21 2	2 23	24	25	56
	٠		,	,													į			I
BRYACEAE																		1		1
Pohlia—(Continued) elongata Hedw	×	×					×	:	×				:		>					
filiformis (Dicks.) Andrewsnutans (Hedw.) Lindb	x x x		×	×	^	×	××	×××	×		××	×	× ××	×	××	×	×	××	×	×
puchera (Treuw.) Lindosphagnicola (B. S. G.) Lindo. & Arnwahlenbergii (Web. & Mohr) Andrews	×	٦X	×	×	×	×			×		: ×		×		×	~	×	×	×	
Rhodobryum roseum (Hedw.) Limpr	××	×		×	×	×	×	×	×	×	×	×	X		×	×		×	×	× I
MNIACEAE																		ļ		١
Mnium affine Bland	XXX	×	×	×	××	X	×	×:	×	×		×	×	×	×	×		×		××
cinclidioides Hübencuspidatum Hedw.	X		×	×	×	××	×		×	×	×××	×	× ×	×	××	×	< × ×	×	×	< ×
drummondii B. S. Ghornum Hedw.	×	XX ;				;	×	ΚJ	ΚIJ		4		< × ×	×	×	7	×	×	×	×
hymenophylloides Hübenlongirostrum Brid.*		××	×	×		×		×			×	×	×		×	X	,	×	×	1
lycopodioides (Hook. in Brid.) Schwaegr		×	>				××	٦×			×	×	××	\times	×					
orthorhynchum Brid	X	×	<u> </u>			×	×	×	×		×	×	×	1						1

			DISTRICTS (See Map)	ap)	
	1 2 3 4 5	8 1 9	11 12 13 14 15	16 17 18 19 20	9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
MNIACEAE					
Mnium—(Continued) punctatum Hedw v. elatum Schimp. serratum Brid.* spinulosum B. S. G	X X X X X	X X X X X X X X X X X X X X X X X X X	***** *****	***** **** *****	X X X X X X X X X X X X X X X X X X X
AULACOMNIACEAE					
Aulaconnium androgynum (Hedw.) Schwaegr heterostichum (Hedw.) B. S. G. palustre (Hedw.) Schwaegr turgidum (Wahlenb. in Web. & Mohr) Schwaegr	x x x x	X X X X X X	X X X X X X X X X X X X X X X X X X X	X	X X X X X X X X X X X X X X X X X X X
MEESIACEAE					
Amblyodon dealbatus (Hedw.) Palis. Weesia longiseta Hedw triquetra (Hook. & Tayl.) Ångstr uliginosa Hedw			X X X F	× × ×	

			6	DISTRICTS (See Map)	See M	ap)				
	1 2 3 4 5	6 7 8 9	10 1	1 12 13	14 15	16 17	18 19 2	9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	23 24 25	26
MEESIACEAE			<u> </u>							
Paludella squarrosa (Hedw.) Brid		×				X				
BARTRAMIACEAE										
Bartramia ithyphylla Bridpomiformis Hedw	X X	X X X		X X	×	×	X X X X	×	X	
Conostomum tetragonum (With.) Lindb.*	×									
americana Dismcaespitosa Wils. in Mildev. laxa (Warnst.) Loeske & Warnst			7 1 1	L L L	×	LX		T T N N		
fontana (Hedw.) Bridlongiseta (Michx.) E. G. Britt	X X X	XX	×	×~	X X X ~	×	×	X X	XX	
v. porteri (Aust.) Flowersmarchica (Hedw.) Bridmuhlenbergii (Schwaegr.) Brid	X L	××	×	$egin{array}{ccc} X & X & X & \\ L & X & \end{array}$	×	×	××	×		
Plagiopus oederi (Brid.) Limpr	×	X	X	X	×	×	×	×	×	×

	1 2 3 4 5	6 7 8 9 10	DISTRIC	DISTRICTS (See Map)	Map)	7 18 19 2	DISTRICTS (See Map) 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	3 24 25	26
TIMMIACEAE					<u> </u>				1
Timmia megapolitana Hedw		X X X	×	X	X X X	×		. ×	×
PTYCHOMITRIACEAE]
Campylostelium saxicola (Web. & Mohr) B. S. G Ptychomitrium incurvum (Muhlenb.) Sull							× ×	- ×	
ORTHOTRICHACEAE							i		
Amphidium lapponicum (Hedw.) Schimpmougeotii (B. S. G.) Schimp.	××		×	×		× ××	××		
prorepens (Hedw.) Jenn.	×	L X	×	×		×	×	×	
Orthoricanum anomalum Hedw	X	X X	×	×		× ×			
cupulatum v. nudum (Dicks.) Braithwelegans Hook. & Grevescurii Aust	X	X	××			L X	×		

	1 2 3 4 5	8 1 9	DISTRICTS (See Map)	Map) 5 16 17 18 19 20	DISTRICTS (See Map) 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
OKTHOTRICHACEAE					
Orthotrichum—(Continued) obtusifolium Brid ohioense Sull. & Lesq pumilum Dicks	XLX	* * * * *	X X K	× × × × × × × ×	X X X X X X X
sordidum Sull. & Lesq. ex Auststellatum Bridstrangulatum Palis	X L	×	X X X	X X X X X X X X X X X X X X X X X X X	X L
Ulota crispa (Hedw.) Bridhutchinsiae (Smith) Hammar*	X X X X	X X X X X X X X X X X X X X X X X X X	X X X X X X X X X X X X X X X X X X X	× × × × × × ×	X X X X X X X X X X X X X X X X X X X
v. rufescens (E. G. Britt.) Parisludwigii Brid	X X X	× × ×	X X X	×××	1
Zygodon viridissimus (Dicks.) Brid	XX			×	
FONTINALACEAE					
Dichelyma capillaceum (Myrin) B. S. G	×	×××	X X X		X X X X
falcatum (Hedw.) Myrin	×	* × * ×	×	4	×

	,		DISTRICTS (See Map)	Map)	
	1 2 3 4 5	6 8 7 0	11 12 15 14 1	5 10 17 18 19 20	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
FONTINALACEAE					
Fontinalis antipyretica Hedw. v. gigantea Sull. dalecarlica B. S. G.	× × × ×	× × × ×	L X L X	X X X X X X X X X X X X X X X X X X X	X X X
disticha Hook. & Wils. in Drumm.	×	××	×	×× ×	X X X
hypnoides Hartm lescurii Sull. novae-angliae Sull. v cymbifolia (Aust.) Welch	×	X X X	> × ×	× × ×	X X X X X X X X X X X X X X X X X X X
v. groutii Welch. v. latifolia Card. sullivantii Lindb.	:	×	L X		K K
CLIMACIACEAE					
Climacium acuminatum Warnst.* americanum Brid.	×	X X X X	X X X X	××	×
v. kindbergii Ren. & Card.* dendroides (Hedw.) Web. & Mohr.	X X X		X X X X	X X X X X X X X X X X X X X X X X X X	X X X X X X

			id	DISTRICTS (See Map)	ap)		
	1 2 3 4 5	8 1 9	0	12 13 14 15	9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	20 21 22 23 2	24 25 26
HEDWIGIACEAE							
Hedwigia ciliata (Hedw.) Palis.	XXXXX	X X X X		X	X X X X	XX	X X X
LEUCODONTACEAE							
Forstroemia trichomitria (Hedw.) Lindb.*		X X	×	X	×	×	
Leucodon brachypus Brid julaceus (Hedw.) Sull sciuroides (Hedw.) Schwaegr	× × × × ×	X X X X X X X X X X X X X X X X X X X	XXX	X X X	N L L N	××× ×	N L
NECKERACEAE			<u> </u> 				
Homalia Schimp	X X		×		XXXX	×	
complanata (Hedw.) Hüben gracilis (James in Peck) Kindb pennata Hedw v. oligocarpa (Bruch) Grout	**		K K	XXX	X X X	N L	J

					DISTR	DISTRICTS (See Map)	e Ma	(d				
	1 2 3 4	4 5	2 9	8 9 10	1	2 13 14	1 15	16 17 18	19 20	9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	24 25	26
NECKERACEAE												
Porotrichum alleghaniense (C. Müll.) Grout	r ×	×			×	××	×	×	×	×	:	1
LEMBOPHYLLACEAE												
Pseudisothecium myosuroides (Hedw.) Grout							×					
THELIACEAE												
Myurelia julacea (Schwaegr.) B. S. Gsibirica (C. Müll.) Reim.*	**	22		×	×	× ×	×	XXXIXX	×			
asprella Sull			×	×	××	X X X		$\begin{array}{cccccccccccccccccccccccccccccccccccc$	××	X X X X X	X X X X X X X X X X X X X X X X X X X	××
FABRONIACEAE												
Anacamptodon splachnoides (Froehl.) Brid	×	×			×	×	×	×	×		×	
denticulata (Sull.) Broth					۸.		~		×	×	1	1

	1 2 3 4	5	8 1 9	8 9 10	DIST 111	DISTRICTS (See Map) 11 12 13 14 15 16	See Ma	ap) 16 17	18 19	20 2	11 22 23	DISTRICTS (See Map) 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
LESKEACEAE												
Leskea arenicola Best				×		×	e	×				
polycarpa Hedw v. paludosa (Hedw.) Schimp tectorum (A. Br. in Brid.) Lindb.	×	~ ×	×	X X X	××	X J	××	r x	××		×	×× ××
Leskeella nervosa (Schwaegr.) Loeske*	XXX	×		×		>		×				
Lindbergia brachyptera (Mitt.) Kindb Pseudoleskea	L	-			>		×		ı		7	
atrovirens B. S. G		<u> </u>										
Abietinella abietina (Brid.) C. Müll.*	XXXXX		×	×	×	×	×	×	×	×	×	×
Anomodon attenuatus (Hedw.) Hüben	X X X X		×	××	××	××	××	× × ×	××	××	×	×
minor (Palis,) Lindbrostratus (Hedw.) Schimp	XXX		×	XXX		< ×	4 X	×	4 ×	 	×	XXXXX

						DIS	DISTRICTS (See Map)	(See	Map								1
	1 2 3 4	5	0 7	∞	9 10	11	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	4	15 1	6 17	18 1	9 20	21	22 2.	3 24	25	26
THUIDIACEAE		<u> </u>							1								
Anomodon—(Continued) rugelii (C. Müll.) Keissl	N'X X X	× ×>	l 🗸	×	××	××	×		××	××	××	×				×	
Haplocladium microphyllum (Hedw.) Broth.*virginianum (Hedw.) Broth.*		×			J	××	X V		××	××	×	×	×	×	L L	×	
Haplohymenium triste (Cesati) Kindb.*						.,			×	×	×				×	×	
Helodium blandowii (Web. & Mohr) Warnst paludosum (Sull.) Aust	**		×		×	××	Υ٦	$\times \times$	××	$\times \times$	×			XXXX	××	×	×
v. helodioides (Ken. & Card.) Grout		-								i					۱ ا		1
Heterocladium squarrosulum (Voit) Lindb	>					~~~~											
Kaujelia scita (Palis.) Reim.* Thuidium	×				ı	×	1		×	×	×			×	×	니	
allenii Aust. delicatulum (Hedw.) Mitt.	× × ×		×	×	×	×	×	×	<u>~</u>	×	×	×	×	X X			×
minutulum (Hedw.) B. S. G	× × ×				×	×	× × ×	×	<u> </u>	×	××				×		
		-							-								

	1 2	4	5	7		9 1	10 0	DISTRICTS (See Map) 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	s (Sc 13 14	ee M 1 15	[ap)	17	18 19	20	21 3	22 2	3 2	4 2	5 26
THUIDIACEAE			<u> </u>																
Thuidium—(Continued) pygmaeum B. S. Grecognitum (Hedw.) Lindb	×	×	×		×	X X X			X X	XX		×	×	> ×			^	X L	,
AMBLYSTEGIACEAE			l																
Amblystegiella confervoides (Brid.) Loeskeminutissima (Sull. & Lesq.) Nichols		nn	××				~	×	×	×	×	×	ы	×					
sprucei (Bruch) Loeskesubtilis (Hedw.) Loeske		×		X X		×	×					×	×						
Amblystegium compactum (C. Müll.) Austiuratzkanum Schimp	1	1	×:	;	;	, ×)(p		ы. Ы.	××			k. P	þ	}		r	F1 F	.
serpens (Hedw.) B. S. Gvarium (Hedw.) Lindbv. v. lancifolium Grout	X.X X	× × × ×	<u> </u>	х х х х	4	<u> </u>	<u> </u>		× <×		니	4 12	4×	4×	XX XX XX	1 X	Y М	7 7 7	X X L X
Calliergon cordifolium (Hedw.) Kindb	×	×	×	l	×	××		×	×:	×	×	× × ×	×	×				X L	×
giganteum (Schimp.) Kindbsarmentosum (Wahlenb.) Kindbstramineum (Brid.) Kindbtrifarium (Web. & Mohr) Kindb		××	×	×					× ×	×		×			Ì		4		4

	1 2	8	+	5	9	1	∞)1 (DIS	DISTRICTS (See Map) 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	s (S	ee N	[ap]	5 17	18 1	9 20	21 2	2 2.	3 24	25	26
AMBLYSTEGIACEAE									<u> </u>												
Calliergonella cuspidata (Brid.) Loeske	×	×	×		×	1		×	×		긔	×	×	×			X L	,		×	X X
Campylium chrysophyllum (Brid.) Bryhn hispidulum (Brid.) Mitt polygamum (B. S. G.) Bryhn radicale (Palis.) Grout stellatum (Hedw.) Lange & C. Jens. v. protensum (Brid.) Röhl.	× ×	××	L XX		XXX X	×	×	X XX A	XXX X		× × ×	XXXXX	X > X	* **	× × ×	XXXXX	×	N N I		i ii	×>
Cratoneuron commutatum (Hedw.) Roth filicinum (Hedw.) Roth				×	XL	, ,	×	×	~ 🛚		XX	XX	×	×	×			×	×	×	×
Drepanocladus aduncus (Hedw.) Warnst		×	×	_	×		×	×	<u>×.</u>		×		×	×	×	Λ	71	×		×	×
v. caplinfolus (Warnst.) Wynnev. kneiffii (B. S. G.) Mönkenexannulatus (B. S. G.) Warnst		×			××	×	X	XX	XX		××	4 % %	××	×	×	X				\vdash	×
fuitans (Hedw.) Warnst	×	×			þ	, ,	×	×			×	* *	× >			×	×	×		×	×
revolvens (1 urn.) Warnst uncinatus (Hedw.) Warnst		×	4 14	4 ×	4 2			×	X X X		×	4 X X		AXX	4 ×	××		×			

	1 2 3 4	ι ν	6 7 8	9 10	DIS7	DISTRICTS (See Map)	(See 14 1.	Map)		DISTRICTS (See Map) 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	20	21 2	2 2	3 24	25	26
AMBLYSTEGIACEAE]						- 0		
Scorpidium scorpioides (Hedw.) Limpr	XX		×	X	×		×	×				, n	×			$ \times $
BRACHYTHECIACEAE																
Brachythecium acutum (Mitt.) Sull campestre B. S. G	××	×	×		LXL	ᆔ		××	××	××	×	⋈ ~-		H	$\bowtie \vdash$	
erythrorrhizon B. S. G	X X X X X			××	×	×		×	×	×	×		×	X X X	\bowtie	
oxycladon (Brid.) Jaegr. & Sauerb X v. dentatum (Lesq. & James) Grout populeum (Hedw.) B. S. G.	X X X X	·	×	××	XUX	×	X X X X X X	x x	××	×	×	n n	X X	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	××	××
reflexum (Starke ex Web.& Mohr) B. S. G. rivulare B. S. G.	X X X X	×	×	××	××	X	×	×		X X X	××		×	×	X X X	×
rutabulum (Hedw.) B. S. Gsalebrosum (Web. & Mohr) B. S. Gv. flaccidum B. S. G	X X X X	<u> </u>	××	××>	××	××		XX	××	L X X	××		٦	××	××	××

				DISTR	DISTRICTS (See Map)	Ma	p)			
	1 2 3 4 5	6 7	8 9 10	111	2 13 14	15	16 17 18	19 20	9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	5 26
BRACHYTHECIACEAE										
Brachythecium starkei (Brid.) B. S. Gvelutinum (Hedw.) B. S. G			X	×	××	××	X X	××	1	×
Bryhnia angustifolia Warnst.* graminicolor (Brid.) Grout novae-angliae (Sull. & Lesq.) Grout	× × ×	×	X X X	××	XX XX	××	x x	X	X X X X X X X X X X X X X X X X X X X	××
Camptothecium nitens (Hedw.) Schimp		X	×	XX	×	×	X		×	
Chamberlainia acuminata (Hedw.) Groutcyrtophylla (Kindb.) Grout	×		X L	×	×	××	X X X	×	X X	.
Cirriphyllum boscii (Schwaegr.) Groutpillierum (Hedw.) Grout			×	××	×	×	××	>	X X X X X	×
Eurhynchium pulchellum (Hedw.) Jenn.*	X X X	×	X X X	×	×	×	X X X	×	X	٠,
v. praecox (Hedw.) Jenn v. robustum (Röll.) Jenn v. scabrisetum (Grout) Ketchl				X J	I				7	,

	1 2	3 4 5	8 2 8	3	DISTRIC 11 12	DISTRICTS (See Map)	Ma ₁	(c)	18 19 2	DISTRICTS (See Map) 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	2 23	24 25	26
BRACHYTHECIACEAE													
Homalotheciella subcapillata (Hedw.) Card		J					×		×			×	
Oxyrhynchium hians (Hedw.) Loeske*			×	×		×	×	×	×		Γ	X	×
Rhynchostegium serrulatum (Hedw.) Jaegr. & Sauerb.*	×	X X X	×	×	X	XX	×	X	$X \times X$		x x	X X	x x
ENTODONTACEAE													
Entodon brevisetus (Hook. & Wils.) Jaegr. & Sauerb.			; ;	;	;	;	÷	;		2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		÷	
cladorrhizans (Hedw.) C. Müllseductrix (Hedw.) C. Müllv. demetrii (Ren. & Card.) Grout			<	₹ ₹ ₩	LXY	4 14	4 🗷	4 X 4 X 1		× ×	×	ά Χ~	
Pleurozium schreberi (Brid.) Mitt.*	$X \times X \times X$	×	×	X	×	×	×	×	×	×	×	×	×
Pterigynandrum filiforme Hedw		×		×	Г			X	X	1.1			
PLAGIOTHECIACEAE													
Plagiothecium denticulatum (Hedw.) B. S. Gv. tenellum B. S. G	×	××	×_	×	×		×	X X X			×	X X X	×

	1 2 3 4 5	5 6 7 8 9 10	DISTRICTS (See Map)	(Jap) 16 17 18 19 20	B 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
PLAGIOTHECIACEAE				1	
Plagiothecium—(Continued) elegans (Hook.) Sull	X X X	×	×	×	×
v. gracitens Aust		J	X X X T		T X X X X X X X X X X X X X X X X X X X
muellerianum Schimppulchellum (Hedw.) B. S. G	××	××	X X X	×× ×× ×:	
v. nitidulum (Wahlenb.) Husnotroeseanum (Hampe) B. S. Gruthei Limpr	×		T X X X	>	X T T X
subfalcatum Austsylvaticum (Brid.) B. S. Gturfaceum (Lindb.) Lindb	×× × ×	× × ×	X X X	X X X X X X X X X X X X X X X X X X X	x x xx
SEMATOPHYLLACEAE					
Brotherella delicatula (James) Fleischrecurvans (Michx.) Fleischtenuirostris (Schimp.) Broth	X X X	X X X X X X X X X X X X X X X X X X X	× × ×	× × × × × ×	X X X X X X

										DISTRICTS (See Map)	RICI	(S)	ee 1	Map									1
		2 3	4	w	9	7	00	0	10	=======================================	12	13 1	ゼ	2	6 1	7 18	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	20	21 2	2 2	3 2	5	5 26
SEMATOPHYLLACEAE																	,						
Heterophyllium haldanianum (Grev.) Roth		×	×		×	×		×	×	×		×	XX		×	×		×		×	×	×	×
Sematophylium adnatum (Michx.) E. G. Britt carolinianum (C. Müll.) E. G. Britt marylandicum (C. Müll.) E. G. Britt									H	~ ~								××	×	× ×	X	××	×
HYPNACEAE																							
Ctenidium molluscum (Hedw.) Mitt.*					×					×	×	×	×	×	×	×			, ,	×	×	X T	×
Dolicotheca striatella (Brid.) Loeske*	~	×	×					×	×	×		×	M	×	×	×		×	, ,	×	~	×	×
Homomailium adnatum (Hedw.) Broth		×	k al		×				×		×	×	×	×	T X	×			×	×	×	×	×
rtypnum cupressiforme Hedw			××	$\times \times$	$\times \times$			×	×	\bowtie		×	×	××	$\times \times$	×	\bowtie	××	,,,,	××	\times	××	××
fertile Sendt		\sim	X						×	×			\sim	ا برا	~			×	`	bd			İ
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v. americanum (nem. & Caru.) vintem v. demissum (Schimp.) Ketchl										۱ ا		اد											

				DISTR	DISTRICTS (See Map)	Ma	(d						
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HYPNACEAE												1	
Hypnum—(Continued) v. elatum (Schimp.) Ketchl			×		٦		>		>				
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Platygyrium repens (Brid.) B. S. G	X X X X X	×	×	×	×	×	X	×	×	×	×	×	×
Ptilium crista-castrensis (Hedw.) De Not.*	X X X		×	×	×	×	×	×				×	
Pylaisia intricata (Hedw.) B. S. G	XX	×	×		×	×	×;	×	X	×	×	×	
polyantha (Hedw.) B. S. G. selwynii Kindb. selwynii Kindb. subdenticulata B. S. G	×		X X	XXL	×	××	XXX	××	×	T		L X	
Taxiphyllum deplanatum (Sull.) Fleisch.*geophilum (Aust.) Fleisch.*		×	L	×	L	××	×	××	××			×	
HYLOCOMIACEAE													l i
Hylocomium brevirostre (Palis.) B. S. Gpyrenaicum (Spruce) Lindb	× × ×	×	×	××	×	×	××	×	×				

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НҮLОСОМІАСЕАЕ		<u> </u>					<u> </u>						
Hylocomium—(Continued) splendens (Hedw.) B. S. G umbaratum (Hedw.) B. S. G Rhytidiadelphus	XX XX	1	×	××	L X	×	×	××	×	××			×
triquetrus (Hedw.) Warnst	X X X X	<u>×</u>	×	××	××	××	××	××	$\bowtie \bowtie$	$\times \times$	×	1	1
rugosum (Hedw.) Kindb	X X X	×			×	X	×	×	×	×			
BUXBAUMIACEAE				j			İ						
Buxbaumia aphylla Hedwsubcylindrica Grout	××		X X L	חח	××	×	××	X X X L	×	×	×		×
foliosum (Hedw.) Mohr	x x x		×	×	×	×	×	×	×	×	×	V L	X
POLYTRICHACEAE		l		İ			İ						
Atrichum angustatum (Brid.) B. S. G. crispum (Iames) Sull.	X X X	×	××	××	 ××	×	×	×	×	×	×	××	×× ××
undulatum (Hedw.) Palis	XXX	<u>×</u>		×	X X X X X X X X X	X	×	×	×	×	X	×	* ×

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POLYTRICHACEAE]									
Pogonatum alpinum (Hedw.) Röhl brachyphyllum (Michx.) Palis capillare (Michx.) Brid pensilvanicum (Hedw.) Paris	× ××× × ××		×	× ××	× ×	×	××	×	× × × ×××	× ×	× ××	×	× ×	×	X X	×	
Polytrichum commune Hedw	X X X X X X X X X X X X X X X X X X X	×	×	×		×	××	×	××:	~ ;	×	×	\times	× X	×	×	
gracile Smith juniperinum Hedw v. alpestre B. S. G ohioense Ren. & Card.	×××× ×××× ××××	× × × × ×	×	XX XC	XXXX	* **	X	***	×× ××	× ××××	* **	××	× ××	* **	× ××	× ××	
DESIDERATA		<u> </u>										1					
Aloina brevirostris (Hook. & Grev.) Kindb Brachydontium trichodes (Web. f.) Bruch Brothera leana (Sull.) C. Müll Bruchia longicollis Eaton Bryoxiphium norvegicum (Brid.) Mitt																	

			DISTRICTS (See Map)	ap)	
	1 2 3 4 5	8 1 9	11 12 13 14 15	9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	23 24 25 26
DESIDERATA					
Catoscopium nigritum Brid					
Dicranodontium asperulum (Mitt.) Broth Dicranum groenlandicum Brid D. majus Smith Ditrichum flexicaule (Schwaegr.) Hampe Entodon compressus (Hedw.) C. Müll. Eucladium verticillatum (Brid.) B. S. G					
Fissidens bushii Card. & Thér. F. closteri Aust. Funaria americana Lindb. Hookeria acutifolia Hook. in Schwaegr. Mnium pseudopunctatum B. S. G.* Nanomitrium synoicum (James) Lindb. Oncophorus rauei (Aust.) Grout					

			DISTRICTS (See Map)	ар)	
	1 2 3 4 5	5 6 7 8 9 10	11 12 13 14 15	16 17 18 19 20	8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
DESIDERATA					
Oncophorus tenellus (B. S. G.) Williams					
Plagiobryum zierii (Hedw.) Lindb. Pleuridium acuminatum Lindb. P. ravenelii Aust. P. sullivantii Aust. Pohlia bulbifera (Warnst.) Warnst. P. longicolla (Hedw.) Lindb.					
P. rothii (Correns) Broth					
Seligeria tristichoides KindbSphagnum cyclophyllum Sull. & LesqS. erythrocalyx Hampe					

			DISTRICTS (See Map)	ap)	
	1 2 3 4 5	6 7 8 9 10	11 12 13 14 15	16 17 18 19 20	8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
DESIDERATA					
Sphagnum portoricense Hampe					

ADDITIONS	 7	8	5	9	7	∞	10	 12 13	14 15	9 10 11 12 13 14 15 16 17 18 19 20	19 20	21 22 23 24 25 26	92
				<u> </u>									
				-									

SYNONYMY

PAGE	CHECKLIST NAME	FLORA NAME
11	Sphagnum centrale	Sphagnum magellanicum (in part)
12	S. warnstorfianum	S. warnstorfii
13	Fissidens debilis	Fissidens Julianus
16	Dicranella schreberiana	Dicranella Schreberi
19	Bryoerythrophyllum	
	recurvirostrum	Didymodon recurvirostris
20	Hymenostylium recurvirostrum	Gymnostomum recurvirostrum
	Tortella humilis	Tortella caespitosa
21	Trichostomum tenuirostre	Trichostomum cylindricum
	Weissia controversa	Weisia viridula
	Grimmia affinis	Grimmia ovalis
	G. apocarpa v. alpicola	G. alpicola
	G. apocarpa v. dupretii	G. Dupreti
	G. apocarpa v. stricta	G. apocarpa v. gracilis
23	Physcomitrium pyriforme	Physcomitrium turbinatum
24	Tetrodontium brownianum	Tetraphis Browniana
	Bryum angustirete	Bryum pendulum
25	B. pseudotriquetrum	B. bimum
	B. uliginosum	B. cernuum
26	Pohlia delicatula	Pohlia carnea
26	Mnium longirostrum	Mnium rostratum
27	M. serratum	M. marginatum
28	Conostomum tetragonum	Conostomum boreale
30	Ulota hutchinsiae	Ulota americana
31	Climacium americanum v.	
	kindbergii	Climacium Kindbergii
32	Forsstroemia trichomitria	Leptodon trichomitrion
33	Myurella sibirica	Myurella Careyana
2.4	Thelia asprella v. lescurii	Thelia lescurii
34	Leskeella nervosa	Leskea nervosa
25	Abietinella abietina	Thuidium abietinum
35	Haplocladium microphyllum	Thuidium microphyllum
	H. virginianum	T. virginianum
	Haplohymenium triste Rauiella scita	Anomodon tristis
38		Thuidium scitum
50	Hygroamblystegium tenax Hygrohypnum luridum	Hygroamblystegium irriguum
	Platyhypnidium rusciforme	Hygrohypnum palustre Eurhynchium rusciforme
	Platylomella lescurii	Sciaromium lescurii
39	Brachythecium flagellare	Brachythecium plumosum
40	Eurhynchium pulchellum	Eurhynchium strigosum
41	Oxyrhynchium hians	Eurhynchium hians
	Rhynchostegium serrulatum	Eurhynchium serrulatum
	Pleurozium schreberi	Calliergonella Schreberi
43	Ctenidium molluscum	Hypnum molluscum
	Dolicotheca striatella	Plagiothecium striatellum
	Hypnum lindbergii	Hypnum arcuatum
44	Ptilium crista-castrensis	Hypnum crista-castrensis
	Taxiphyllum deplanatum	Plagiothecium deplanatum
	T. geophilum	P. geophilum
47	Mnium pseudopunctatum	Mnium punctatum (in part)
49	Weissia microstoma	Weisia microstoma

For the following species and variety, not listed in the Moss Flora, the references cited may be consulted:

PAGE	CHECKLIST NAME	REFERENCE
13 23 31 40	Fissidens exilis Funaria flaviseta Climacium acuminatum Bryhnia angustifolia Camptothecium nitens, v. falcifolium	The Bryologist 53: 131-136. 1950 Hedwigia 57: 90-93. 1915 Hedwigia 57: 129-130. 1915 Hedwigia 57: 115-116. 1915 Rhodora 15: 12. 1913

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